

TAXONOMIC PROBLEMS OF CRATAEGUS, WITH SPECIAL REFERENCE TO SPECIES OF HYBRID ORIGIN

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Since there seems to be much misunderstanding about Crataegus among uninformed persons, particularly in the East, I submit the following statements and conclusions regarding the Hawthorns of Cook and Du Page Counties of Illinois:

1. There are at least 26 readily identified species and 5 varieties in addition to the types.
2. The individuals of each species vary within a certain range. Variations in a population of hybrid origin are more restricted.
3. There is no gradation between species.
4. Knowledge of 79 characters is desirable to identify a plant.
5. Some characters are more important than others. The diagnostic importance of various characters varies from series to series, as shown in a Key.
6. Most Hawthorns found in the field are so distinctive that they can be identified with reasonable certainty by their leaves, bark, thorns and manner of growth without recourse to floral characters.
7. Nearly one-third of all the described species are of hybrid origin.
8. Individual undescribed F_1 hybrids are quite rare, but a number have been found.
9. The taxonomy of species of hybrid origin is no different from pure species except for the problem of deciding what series to place them into where the parents belonged to different series.
10. It is as necessary to describe species of hybrid origin as it is to describe pure species and a taxonomic treatment of the genus that disposes of species of hybrid origin by a mere mention of the parents is vitiated.
11. The characters of the parents may be combined in any one of many different ways in a hybrid. Hybrid populations from the same parents may be so different (as acanthacolonensis and disperma) that they are assigned to different series. All the members of each hybrid population have identical characters, such as the color of the anthers, since they descended from a common ancestor. I know of no hybrid-swarms in Crataegus and no evidence that this genus conforms to Mendel's law.
12. An inbred hybrid population of great age may have developed characters different from and not

intermediate between the parents. A. E. Longley's "Cytological Studies in the Genus Crataegus" published in The American Journal of Botany 11:295-317; 1924 showed that C. hillii is of hybrid origin, a hypothesis morphologically verified by the odd number of its stamens. Its parents were the Downy Hawthorn mollis and the Scarlet Hawthorn pedicellata. But the nutlets of hillii are 9 mm. long, thin, and acute at both ends, a combination of characters not found in either parent or in any other species of its region.

13. On the assumption that "classical" taxonomy is the proper base, adequate treatment of Crataegus requires detailed descriptions of all species and varieties, regardless of their phylogeny.

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NOTES ON NEW AND NOTEWORTHY PLANTS. XXXVII

Harold N. Moldenke

DURANTA DOMBEYANA var. ESPINOSAE Moldenke, var. nov.

Haec varietas a forma typica speciei calicibus sub anthesin 10--12 mm. longis recedit.

This variety differs from the typical form of the species in having its calyxes at time of anthesis 10--12 mm. long.

The type of the variety was collected by my friend and colleague, Dr. Reinaldo Espinosa (1899--1950), no. E.1805 — in whose honor it is named — at Zaruma (alturas de Viscaya), at an altitude of 1530 meters, El Oro, Ecuador, on August 18, 1947, and is deposited in the Britton Herbarium at the New York Botanical Garden. The collector, whose untimely death on a botanical excursion was a great loss to South American botanical science, notes "Arbusto de ramas duras y largas. Hojas color verde claro. Corola color lila muy claro. Frecuente."

LANTANA CUJABENSIS var. PARVIFOLIA Moldenke, var. nov.

Haec varietas a forma typica speciei laminis foliorum lanceolatis 2.3--4.5 cm. longis 1--2.1 cm. latis recedit.

This variety differs from the typical form of the species in having its leaf-blades lanceolate, 2.3--4.5 cm. long, and 1--2.1 cm. wide.

The type of the variety was collected by N. Angulo and H. Arnaldo López Miranda (no. 1346) at Jalca, at an altitude of 3360 meters, Jalca de Ullancán, province of Utuzco, La Libertad, Peru, on July 1, 1951, and is deposited in the H. N. Moldenke Herbarium at Yonkers, New York.